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Notice of Allowability	Application No.	Applicant(s)	
	10/655,924	KISHI, GREGORY TAD	
	Examiner	Art Unit	
	Yaima Campos	2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. ☒ This communication is responsive to 1/25/06.
- 2. ☒ The allowed claim(s) is/are 1-4, 6-10, 12-16, 18-22 and 24-30 (Now renumbered as 1-26).
- 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
- 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

- Attachment(s)**
- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

I. EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Brian C. Kunzler (Reg. No. 35,527) on March 17, 2006.
3. The application has been amended as follows:
4. **Claim 6** (now renumbered to claim 5), line 1, "5" is changed to **-1-**.
5. **Claim 12** (now renumbered to claim 10), line 1, "11" is changed to **-6-** (originally claim 7).
6. **Claim 18** (now renumbered to claim 15), line 1, "17" is changed to **-11-** (originally claim 13).
7. **Claim 24** (now renumbered to claim 20), line 1, "23" is changed to **-16-** (originally claim 19).

II. RELEVANT ART CITED BY THE EXAMINER

1. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c)**.

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2. The following references teaches a cache flushing system which predicts the use of cache memory in a high performance computer system, and manages the amount of free space available in the cache memory according to the prediction.

U.S. PATENT NUMBER

US 5,566,315

III. REASONS FOR ALLOWANCE

8. The following is an examiner's statement of reasons for allowance:

9. Per the instant office action, claims 1-4, 6-10, 12-16, 18-22, 24-30 (Now renumbered to claims 1-26) are considered as allowable subject matter.

10. As per claims 1, 7, 13, 19, 25 and 28 (Now claims 1, 6, 11, 16, 21, and 24)

 Bogin et al. (US 6,658,533) discloses "an apparatus/system for flushing data from cache to secondary storage comprising an identification module configured to identify predefined high priority cache structures and predefined low priority cache structures; comprising a storage manager configured to transfer data between a host and a plurality of logical volumes corresponding to one or more physical volumes, the logical volumes identified as low priority and high priority, a media library to transfer data between a direct access storage device cache configured to cache logical volumes and one or more physical volumes," and "a cache manager configured to manage logical volumes stored in the direct access storage device cache and selectively flush."

 Liu et al. (US 6,922,754) discloses "a flushing module configured to selectively flush low priority cache structures according to a first scheme in response to a higher demand load and a second scheme in response to a lower demand load", and "a

flushing module configured to selectively flush low priority cache structures according to a first scheme in response to a higher demand load and a second scheme in response to a lower demand load.”

Defouw et al. (US 6,742,084) discloses “a sort module configured to order predefined high priority cache structures and predefined low priority cache structures according to a first criteria and a second criteria” where the first criteria comprises “a least recently used algorithm” and the second criteria comprises “a size algorithm.”

Liedberg (US 5,943,687) discloses “an apparatus for flushing data from a cache to secondary storage; comprising an identification module configured to identify predefined high priority cache structures and predefined low priority cache structures, a flushing module configured to selectively flush low priority cache structures, a storage manager configured to transfer data, a media library to transfer data between a direct access storage device cache configured to cache, and a cache manager configured to manage direct access storage device cache and selectively flush.”

Loechel (US 5,895,488) discloses “flushing low priority cache structures according to a first scheme in response to a higher demand load and a second scheme in response to a lower demand load.”

The primary reasons for allowance of claims **1, 7, 13, 19, 25 and 28 (Now claims 1, 6, 11, 16, 21, and 24)** in the instant application is the combination with the inclusion in these claims of the limitation of an apparatus for flushing data from cache to secondary storage wherein **“the first scheme selects a low priority cache structure that will free the most space in a cache and the second scheme selects a low**

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priority cache structure that will free the least space in a cache." The prior art of record including the disclosures under section II above neither anticipates nor renders obvious the above-recited combination.

Dependent **claims 2-4, 8-10, 14-16, 20-22, 26-27 and 29-30 (Now claims 2-4, 7-9, 12-14, 17-19, 22-23 and 25-26)** are allowable at least for the reasons recited above as including all of the limitations of the allowable independent base claims upon which they depend.

Furthermore, the term "substantially no demand load" has been defined in Applicant's Specification (Page 5, paragraph 0018, lines 3-4 and Pages 13-14, paragraph 0052, lines 8-9) as a "lower demand load."

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

IV. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaima Campos whose telephone number is (571)272-1232. The examiner can normally be reached on Monday to Friday 8:30 AM to 5:00 PM.

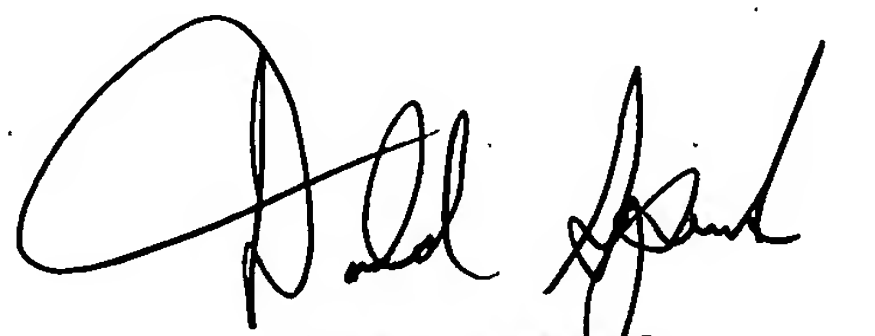
IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571)272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 22, 2006

Yaima Campos
Examiner
Art Unit 2185



DONALD SPARKS
SUPERVISORY PATENT EXAMINER